REMARKS

Claims 1-39 are pending in the application. Claims 9-11 and 16-39 are withdrawn from consideration. Claims 1 and 15 have been amended. Upon entry of these amendments, Claims 1-8, and 12-15 will be pending and under active consideration. Claim 1 is independent.

Applicant notes that Claims 9-11 and 16-39 remain withdrawn from consideration without prejudice to pursuing the withdrawn subject matter in this or other continuation or divisional applications.

Applicant submits respectfully that the amendments presented herein are supported fully by the claims and/or specification as originally filed and, thus, do not represent new subject matter.

In particular, the specification has been amended to recite the sequence identifiers for SEQ ID NOs. 28 and 29, respectively as required under 37 C.F.R. §§ 1.821-1.825.

In particular, Claim 1 has been amended to now recite that the method comprises treating a subject suffering from a herpes virus infection or a disease associated with a herpes virus infection comprising: administering to the subject a therapeutically effective amount of a substance exhibiting mammalian alpha-1-antitrypsin (AAT) or AAT-like activity in combination with a therapeutically effective amount of an antiviral nucleoside derivative comprising acyclovir, vidarabine, azidothymidine, ganciclovir or a combination thereof.

Claim 15 has been amended so as to correct the inadvertent punctuation errors.

The amendment to the claims is supported fully by the claims and/or specification as originally filed and, thus, does not represent new subject matter. In particular, the amendment to Claim 1 finds support at page 17, lines 14-17, page 26, lines 13-14, page 17, line 18-page 18, line 6, page 18, line 20-page 19, line 19 and page 21, lines 1-4.

Applicant respectfully requests entry of the amendments and remarks made herein into the file history of the present invention. Reconsideration and withdrawal of the rejections set forth in the above-identified Office Action are respectfully requested.

I. Formal Matters

A) Information Disclosure Statement

At page 2 of the Office Action, the Examiner indicates that there is no prior Information Disclosure Statement or PTO Form 1449 on file in the above-identified application. Applicant respectfully submits that an Information Disclosure Statement or PTO Form 1449 was in fact filed on August 8, 2001 (A copy of this filing is attached herewith as Exhibit A for the convenience of the Examiner).

B) Sequence Listing Requirements

At page 3 of the Office Action, the Examiner indicates that the application contains sequence disclosures that are encompassed by the definitions for nucleotide and/or amino acid sequences set forth in 37 CFR 1.821(a)(1) and (a)(2). The Examiner further indicates that this application allegedly fails to comply with the requirements of 37 C.F.R. §§ 1.821-1.825 for the reason(s) set forth in the attached Notice To Comply

With Requirements For Patent Applications Containing Nucleotide Sequence And/Or Amino Acid Sequence Disclosures. In particular, the Examiner indicates that compliance is required in view of the amino acid sequences disclosed on page 3, starting on line 8 and on page 6, lines 2 and 3.

In response to the Examiner's requirement, submitted concurrently herewith is a Substitute Sequence Listing (in paper copy and computer readable form) as required under 37 C.F.R. §§ 1.821-1.825 (specifically, § 1.825(a)). The substitute Sequence Listing provides the amino acid sequence for each of the amino acid sequences depicted on page 3, lines 8-15 (SEQ ID NO: 28) and page 6, lines 1-2 (SEQ ID NO: 29), respectively. The specification has been amended to now recite the sequence identifiers for SEQ ID NOs: 28 and 29, respectively. In accordance with the requirements of 37 C.F.R. §§ 1.821-1.825, Applicant hereby states that the content of the paper and the two copies (37 C.F.R. § 1.825(a)) of the computer-readable copies (37 C.F.R. § 1.52(e)) of the substitute sequence listing submitted in accordance with 37 C.F.R. §§ 1.82(c) and (e), respectively, are the same. Applicant hereby states that the submission, filed in accordance with 37 C.F.R. § 1.82(g), does not introduce new matter.

C) Claim Objection

At page 2 of the Office Action, the Examiner indicates that Claim 15 is objected to because of the punctuation errors in the claim. Applicant has amended Claim 15 so as to correct the inadvertent punctuation errors.

II. The Rejections Under 35 U.S.C. § 102(b) Should Be Withdrawn

The Office Action, at pages 4-5, rejects Claims 1, 2, 5- 8, and 11-14 under 35 U.S.C. § 102(b) as being anticipated by Lezdey (US 5,532,215). In particular, the Examiner contends that Lezdey teaches a method to treat a subject suffering from a herpes virus infection, eczema or related conditions with an AAT compound by topical or systemic dosing at about 1 mg/kg body weight. The Examiner contends that Lezdey teaches that AAT is a serine proteinase inhibitors that is in the subgroup called serpins and that alpha 1- protease inhibitor (alpha 1- PI) is another name for AAT. Applicant traverses respectfully

Without acquiescing in the propriety of arguments presented by the Office Action, Applicant has amended Claim 1 to now recite now recite that the method comprises treating a subject suffering from a herpes virus infection or a disease associated with a herpes virus infection comprising: administering to the subject a therapeutically effective amount of a substance exhibiting mammalian alpha-1-antitrypsin (AAT) or AAT-like activity in combination with a therapeutically effective amount of an antiviral nucleoside derivative comprising acyclovir, vidarabine, azidothymidine, ganciclovir or a combination thereof. Applicant respectfully submits that Lezdey does not teach or suggest the combination of using a substance exhibiting mammalian alpha-1-antitrypsin (AAT) or AAT-like activity with a therapeutically effective amount of an antiviral nucleoside derivative comprising acyclovir, vidarabine, azidothymidine, ganciclovir or a combination thereof to treat a subject suffering from a herpes virus infection or a disease associated with a herpes virus infection.

In light of the amendment to Claim 1, Applicant respectfully submits that the rejection of Claims 1, 2, 5- 8, and 11-14 as allegedly being anticipated by Lezdey under 35 U.S.C. § 102(b), has been overcome. Accordingly, Applicant requests respectfully that the rejection of Claims 1, 2, 5- 8, and 11-14 under 35 U.S.C. § 102(b) be withdrawn.

III. The Rejection Under 35 U.S.C. § 103(a) Should Be Withdrawn

A. The Rejection Over Gyorkos (U.S. Patent No. 5,891,852)

The Office Action, at page 5, rejects Claims 3 and 4 as allegedly being obvious over Gyorkos U.S. Patent No.(US 5,891,852) under 35 U.S.C. § 103(a) or, in the alternative, anticipate under 35 U.S.C. § 102(b) for the reasons of record. The Office Action alleges that Gyorkos teaches AAT related compounds can be used to treat conditions that are caused by an imbalance in the level of alpha 1- PI including invasion of malignant tumors and related conditions. The Office Action further alleges that while Gyorkos does not name all the conditions as per the claims, one of skill in the art would realize the range of conditions that can be treated by the method of Gyorkos. Applicant traverses respectfully.

Without acquiescing in the propriety of arguments presented by the Office Action, Applicant has amended Claim 1 to now recite now recite that the method comprises treating a subject suffering from a herpes virus infection or a disease associated with a herpes virus infection comprising: administering to the subject a therapeutically effective amount of a substance exhibiting mammalian alpha-1-antitrypsin (AAT) or AAT-like

activity in combination with a therapeutically effective amount of an antiviral nucleoside derivative comprising acyclovir, vidarabine, azidothymidine, ganciclovir or a combination thereof. Applicant respectfully submits that Gyorkos does not teach or suggest the combination of using a substance exhibiting mammalian alpha-1-antitrypsin (AAT) or AAT-like activity with a therapeutically effective amount of an antiviral nucleoside derivative comprising acyclovir, vidarabine, azidothymidine, ganciclovir or a combination thereof to treat a subject suffering from a herpes virus infection or a disease associated with a herpes virus infection. Accordingly, the Gyorkos reference fails to meet the threshold required for establishing a *prima facie* case of obviousness under 35 U.S.C. § 103(a).

Accordingly, Applicant submits respectfully that the rejection of Claims 3 and 4 under 35 U.S.C. § 103(a) have been overcome, and Applicants request respectfully that the rejection of Claims 3 and 4 under 35 U.S.C. § 103(a) be withdrawn.

B. The Rejection Over Gyorkos (U.S. Patent No. 5,618,792)

The Office Action, at page 6-7, rejects Claim 15 as allegedly being unpatentable over Lezdey as previously applied to claims 1- 3, 5- 8, 11- 14, and further in view of Gyorkos (US 5,618,792). The Office Action acknowledges that Lezdey does not teach related compounds that have AAT-like activity. The Office Action further alleges that Gyorkos teaches a series of compounds including (Benzyloxycarbonyl)-L-valyl-N-[1-(2-[-(3-methylbenzyl)-1,3,4-oxydiaxolyl]carbonyl)-2-(S)-methylpropyl]-L-prolinamide that are serine proteinase inhibitors that are low molecular weight, high stability, stability

in physiological conditions, is a serpin, and can be formulated as a pharmaceutical. The Office Action further alleges that it would have been *prima facie* obvious to use the compounds of Gyorkos including (Benzyloxycarbonyl)-L-valyl-N-[1-(2-[-(3-methylbenzyl)-1,3,4-oxydiaxolyl]carbonyl)-2-(S)-methylpropyl]-L-prolinamide knowing that it has AAT activity in the method of Lezdey with the expectation of success. Applicant respectfully traverses the rejection.

Without acquiescing in the propriety of arguments presented by the Office Action, Applicant has amended Claim 1 to now recite now recite that the method comprises treating a subject suffering from a herpes virus infection or a disease associated with a herpes virus infection comprising: administering to the subject a therapeutically effective amount of a substance exhibiting mammalian alpha-1-antitrypsin (AAT) or AAT-like activity in combination with a therapeutically effective amount of an antiviral nucleoside derivative comprising acyclovir, vidarabine, azidothymidine, ganciclovir or a combination thereof. Applicant respectfully submits that neither Lezdey not Gyorkos teach or suggest the combination of using a substance exhibiting mammalian alpha-1-antitrypsin (AAT) or AAT-like activity with a therapeutically effective amount of an antiviral nucleoside derivative comprising acyclovir, vidarabine, azidothymidine, ganciclovir or a combination thereof to treat a subject suffering from a herpes virus infection or a disease associated with a herpes virus infection. Accordingly, neither Lezdey alone nor the combination of Lezdey with Gyorkos meets the threshold required for establishing a *prima facie* case of obviousness under 35 U.S.C. § 103(a).

Accordingly, Applicant submits respectfully that the rejection of Claim 15 under 35 U.S.C. § 103(a) have been overcome, and Applicants request respectfully that the rejection of Claim 15 under 35 U.S.C. § 103(a) be withdrawn.

IV. The Rejection Under 35 § 112, Second Paragraph Should Be Withdrawn

The Office Action, at page 4, rejects Claims 1, 3, 5, 6, and 11 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The Office Action alleges that it is not clear what is meant by "disease arising from a herpes virus infection." The Office Action further alleges that in Claims 5 and 6 it is not clear if the steps are part of the method or if it is akin to a product by process claim for the agent used. Finally, the Office Action alleges that it is not clear in Claim 11 where the dose is applied. Applicant traverses respectfully.

Without acquiescing in the arguments presented by the Office Action, Applicant has amended Claim 1 to now recite a method of treating a subject suffering from a herpes virus infection or a disease associated with a herpes virus infection comprising: administering to the subject a therapeutically effective amount of a substance exhibiting mammalian alpha-1-antitrypsin (AAT) or AAT-like activity in combination with a therapeutically effective amount of an antiviral nucleoside derivative comprising acyclovir, vidarabine, azidothymidine, ganciclovir or a combination thereof. The amendment to Claim 1 is supported fully by the specification as originally filed. In particular, the amendment to Claim 1 finds support at page 17, lines 14-17, page 26, lines

13-14, page 17, line 18-page 18, line 6, page 18, line 20-page 19, line 19 and page 21, lines 1-4. Applicant submits that the recited portions of the specification specifically teach, *inter alia*, treatment of pre-existing lesions and sores of the skin or mucosa associated with a herpes virus, a pathological condition that is mediated by viral infection, inhibiting bacterial colonization that occurs concurrently with the viral infection, physiological condition caused, in whole or part, by superficial virus infection of skin, mucosal surface which lines the body cavities, and treatment of the herpes-caused eye conditions or diseases, which can be either acute or chronic. Thus, Applicant respectfully submits that Claim 1 as amended is more than sufficiently definite to meet the requirements of 35 U.S.C. § 112, second paragraph.

With respect to the issue in Claims 5 and 6 of whether the recited "steps" are part of the method or if it is akin to a product by process claim for the agent used, Applicant respectfully wishes to clarify that there are no steps recited in Claims 5 and 6. Rather, Claim 5 is merely specifying what the substance of Claim 1 is, namely AAT. Similarly, Claim 6 is merely specifying from where the source of AAT is derived. Applicant respectfully submits that this is more than adequately taught in the specification as originally filed where it recites at page 15, lines 1-4, "[A]mong preferred compounds to treat such viruses is a substantially purified natural or recombinant AAT. Preferably, AAT is substantially purified from a wild type, mutant, or transgenic mammalian source or isolated from a culture of wild type, mutant, or transformed cells." Thus, Applicant respectfully submits that the claims are more than sufficiently definite to meet the requirements of 35 U.S.C. § 112, second paragraph.

Finally, with respect to the issue in Claim 11 that is allegedly unclear where the dose is applied, Applicant respectfully submits that the claim does not specifically recite where the recited dose is to be applied because it depends upon the nature of the condition being treated. For example, the specification as originally filed at page 17, lines 9-13 recites that "[A] similar aim of reducing viral infection is accomplished by providing effective antiviral dose of a compound with AAT activity into oral, rectal and/or vaginal cavity to prevent sexual transmission of herpes. The specification also recites at page 17, lines 18-22 that "[T]he invention also encompasses methods for the treatment of pre-existing lesions and sores of the skin or mucosa associated with a herpes virus and for prevention of future lesions and sores of the skin or mucosa associated with a herpes virus, which comprise administering the above-described compositions in effective amounts for the treatment and/or prevention of these lesions." Thus, Applicant submits that one of skill in the art, reading Claim 11 in light of the specification as filed, would be more than adequately apprised of the scope of the claim. Moreover, Applicant submits that Claim 12, which depends upon Claim 11, specifically provides that the therapeutically effective amount of the substance is administered systemically or topically.

Accordingly, Applicant submits respectfully that the rejection of Claims 1, 3, 5, 6, and 11 under 35 U.S.C. § 112, second paragraph, has been overcome, and Applicants request respectfully that the rejection of Claims 1, 3, 5, 6, and 11 under 35 U.S.C. § 112, second paragraph, be withdrawn.

CONCLUSION

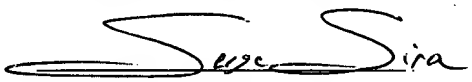
Applicants submit that the application is in condition for allowance. Favorable reconsideration, withdrawal of the rejections set forth in the above-noted Office Action, and an early Notice of Allowance are requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 625-3500. All correspondence should be directed to our address given below.

AUTHORIZATION

Applicants believe there is no fee due in connection with this filing. However, to the extent required, the Commissioner is hereby authorized to charge any fees due in connection with this filing to Deposit Account 50-1710 or credit any overpayment to same.

Respectfully submitted,



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